



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Moriguchi et al.  
Appl. No.: 10/826,233  
Conf. No.: 9637  
Filed: April 16, 2004  
Title: GRAPHITE POWDERS SUITED FOR NEGATIVE ELECTRODE MATERIAL  
OF LITHIUM ION SECONDARY BATTERY  
Art Unit: 1745  
Examiner: Unknown  
Docket No.: 0112857-500

Mail Stop PETITION  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION REQUESTING RECONSIDERATION OF A  
DECISION ON APPLICANTS' PETITION**

Sir:

Applicants are submitting herewith this Petition requesting reconsideration of the decision dated November 15, 2004 on Applicants' Petition filed on October 18, 2004 and received by the U.S. Patent Office on October 21, 2004 regarding the above-referenced patent application. In response to the Decision, Applicants are submitting herewith a copy of pages 68, 69 and 71 of the specification as originally filed on April 16, 2004. Thus, Applicants respectfully submit the filing date of April 16, 2004 should be applied to the specification in its entirety including pages 68, 69 and 71 as originally filed. Accordingly, Applicants respectfully request this reconsideration petition be granted in view of same and further in view of the reasons set forth in Applicants' Petition previously filed on October 18, 2004.

Applicants are also submitting herewith a petition fee pursuant to 37 CFR §1.17(h) and further in compliance with the Notice. However, upon grant of this Petition, Applicants respectfully request a refund of the petition fee. Applicants do not believe that additional fees are due and owing, but if so, Applicants authorize the Patent Office to direct payment thereof from Deposit Account No. 02-1818.

12/17/2004 MHEKONEN 00000060 021818 10826233

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If the Patent Office should have any questions regarding this matter, Applicants kindly request that the undersigned attorney of record be contacted directly.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY 

Thomas C. Basso

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Dated: December 13, 2004



of 0.5 mol of lithium carbonate and 1 mol of cobalt carbonate in air at 900 °C for five hours. The results of X-ray diffractometry indicated good coincidence of the produced  $\text{LiCoO}_2$  with the peak of  $\text{LiCoO}_2$  registered in the JCPDS file. This  $\text{LiCoO}_2$  was pulverized and classified to  $\text{LiCoO}_2$  powders having a 50% cumulative particle size of 15  $\mu\text{m}$ . 95 parts by weight of the  $\text{LiCoO}_2$  powders and 5 parts by weight of lithium carbonate powders were mixed together to form a powder mixture. 95 parts by weight of the resulting powder mixture, 6 parts by weight of the electrically conductive graphite and 3 parts by weight of PVDF as a binder were mixed to prepare a positive electrode material. This positive electrode material was dispersed in N-methyl pyrrolidone to form a paste-like slurry which was uniformly coated on both sides of a strip-like aluminum foil, 20  $\mu\text{m}$  in thickness, which later serves as a positive electrode current collector 10. The resulting assembly was dried and compression-molded to form a strip-like positive electrode 2.

The strip-like negative electrode 1, strip-like positive electrode 2 and separators 3, formed by micro-porous polypropylene films 25  $\mu\text{m}$  in thickness, were layered in the order of the strip-like negative electrode 1, separator 3, strip-like positive electrode 2 and the separator 3, and the resulting layered product was wound about itself a number of times to form a spirally-shaped electrode member having an outside diameter of 18 mm. This spirally-shaped electrode member was housed in a nickel-plated iron battery can 5. An insulating plate 4 was arranged on the top and the bottom of the spirally-shaped electrode member. An aluminum positive terminal lead 12 was

led out from the positive electrode current collector 10 and welded to a battery cap 7, whilst a nickel negative terminal lead 12 was led from the negative terminal current collector 9 and welded to the battery can 5.

Into the battery can 5, housing this spirally shaped electrode member, a 1M solution of  $\text{LiPF}_6$  dissolved in a mixed solvent of ethylene carbonate and diethylene carbonate bearing a 1:1 volume ratio of ethylene carbonate to diethylene carbonate was charged as an electrolyte. A safety valve device 8 having a current breaking mechanism and a battery lid 7 were caulked to the battery can 5, via a insulated sealing gasket 6 having an asphalt surface coating, to prepare a secondary battery having a non-aqueous electrolytic solution, with a diameter and a height of 18 mm and 65 mm, respectively.

50 batteries were tentatively manufactured, for respective groups of graphite powders, and the following evaluation was made of the performance of these batteries. The results of the evaluation are shown in Table 6 along with the performance of the negative electrodes of the graphite powders used for the negative electrodes (discharging capacity and charging/discharging efficiency of the negative electrodes).

#### Method for Evaluation of Batteries

- 1) Charging Conditions: The batteries were charged for 2.5 hours under the maximum charging voltage of 4.2 V and the current intensity of 1 A.
- 2) Discharging Conditions: The batteries were discharged up to 2.75 V with the constant current of 700 mA.

|      |     |    |      |
|------|-----|----|------|
| Ex.5 | 348 | 93 | 1608 |
|      | 340 | 94 | 1597 |
|      | 344 | 92 | 1591 |
|      | 358 | 91 | 1616 |
|      | 359 | 92 | 1626 |
|      | 361 | 94 | 1647 |
| Ex.6 | 349 | 93 | 1611 |
|      | 344 | 91 | 1583 |
|      | 341 | 93 | 1592 |
| Ex.7 | 291 | 93 | 1474 |
|      | 326 | 94 | 1564 |

Table 6 (Continued)

| Ex. Nos. | discharging capacity (mAh/g) | efficiency (%) | battery capacity (mAh) |
|----------|------------------------------|----------------|------------------------|
| Ex.7     | 334                          | 92             | 1568                   |
|          | 342                          | 91             | 1579                   |
|          | 347                          | 92             | 1598                   |
|          | 353                          | 94             | 1628                   |
| Ex.8     | 297                          | 93             | 1488                   |
|          | 330                          | 91             | 1551                   |
|          | 339                          | 93             | 1587                   |
|          | 350                          | 94             | 1621                   |
|          | 357                          | 95             | 1645                   |



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DOCKET # 112857-500

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Alexandria, VA 22313-1450  
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OFFICE OF PETITIONS

In re Application of  
Moriguchi et al.  
Application No. 10/826,233  
Filed: May 7, 2004  
Attorney Docket No. 112857-500

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:  
: DECISION DISMISSING PETITION  
:  
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This is a decision on the petition filed October 21, 2004, which is being treated as a petition requesting that the above-identified application be accorded the original filing date of April 16, 2004, with 75 pages of specification as part of the original disclosure.

On April 16, 2004, applicants deposited the above-identified application. However, the date-stamped postcard receipt contained a notation by a USPTO employee indicating nonreceipt of the 75 page specification. In response, on May 7, 2004, applicants submitted a "Response to Return Receipt Postcard Notation" with a duplicate copy of the specification. Thereafter, the Office of Initial Patent Examination accorded the application a filing date of May 7, 2004, the date of receipt of the pages of specification.

On August 18, 2004, the Office of Initial Patent Examination mailed applicants a Notice of Omitted Item(s) in a Nonprovisional Application, indicating that the application had been accorded a filing date of May 7, 2004, and advising applicants that pages 68, 69, and 71 of the specification appeared to have been omitted.

In response, on October 18, 2004, applicants submitted the present petition and the petition fee. Applicants state that the present application is a continuation application of Application No. 09/292,834, which issued a U.S. Patent No. 6,764,767 on July 20, 2004. Applicants further state that the entire disclosure of the prior application was incorporated by reference.

It is noted that the application transmittal letter identified this application as a continuation application of prior application No. 09/292,834, and specifically incorporated by reference the disclosure of the prior application.

Section 201.06(c) of the Manual of Patent Examining Procedure states that:

. . . an applicant may incorporate by reference the prior application by including, in the application-as-filed, a statement that such specifically enumerated prior application or applications are "hereby incorporated herein by reference." The statement may appear in the specification or in the application transmittal letter. The inclusion of this incorporation by reference of the prior application(s) will permit an applicant to amend the continuing application to include any subject matter in such prior application(s), without the need for a petition. (Emphasis supplied).

Unfortunately, the present petition must be dismissed because applicants failed to submit pages 68, 69 and 71 of the specification with the present petition. The application cannot be accorded the earlier filing date of April 16, 2004, with the entire specification as part of the original disclosure without pages 68, 69, and 71.

Therefore, the petition is dismissed without prejudice. Any renewed petition under 37 CFR 1.182 must be filed within TWO MONTHS of the date of this decision and be accompanied by a copy of pages 68, 69 and 71 of the specification. This period is not extendable. See 37 CFR 1.181(f).

Further correspondence with respect to this matter should be addressed as follows:

By mail:            Mail Stop Petition  
                    Commissioner for Patents  
                    P.O. Box 1450  
                    Alexandria, VA 22313-1450

By FAX:            (703) 872-9306  
                    Attn: Office of Petitions

By hand: U.S. Patent and Trademark Office  
220 20<sup>th</sup> Street S.  
Customer Window, Mail Stop Petition  
Crystal Plaza Two, Lobby, Room 1B03  
Arlington, VA 22202

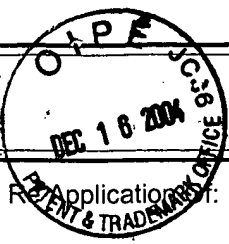
Telephone inquiries concerning this matter may be directed to the undersigned at (571) 272-3211.

*Christina Tartera Donnell*

Christina Tartera Donnell  
Senior Petitions Attorney  
Office of Petitions



IFW/S



**TRANSMITTAL LETTER**  
**(General - Patent Pending)**

Docket No.  
112857-500

In Re Application of: Moriguchi et al.

| Application No. | Filing Date    | Examiner | Customer No. | Group Art Unit | Confirmation No. |
|-----------------|----------------|----------|--------------|----------------|------------------|
| 10/826,233      | April 16, 2004 | Unknown  | 29175        | 1745           | 9637             |

Title: **GRAPHITE POWDERS SUITED FOR NEGATIVE ELECTRODE MATERIAL OF LITHIUM ION SECONDARY BATTERY**

COMMISSIONER FOR PATENTS:

Transmitted herewith is:

**Petition Requesting Reconsideration of a Decision on Applicants' Petition (5 pgs.); copy of Decision Dismissing Petition (3 pgs.); check in the amount of \$130.00; and return receipt postcard.**

in the above identified application.

- ☐ No additional fee is required.
- ☒ A check in the amount of **\$130.00** is attached.
- ☒ The Director is hereby authorized to charge and credit Deposit Account No. **02-1818** as described below.
- ☐ Charge the amount of
- ☒ Credit any overpayment.
- ☒ Charge any additional fee required.
- ☐ Payment by credit card. Form PTO-2038 is attached.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

*Signature*

Dated: **December 13, 2004**

**Thomas C. Basso**  
**Reg. No. 46,541**  
**BELL, BOYD & LLOYD LLC**  
**P.O. Box 1135**  
**Chicago, IL 60690-1135**  
**Phone: 312-807-4310**

|   |  |
|---|--|
| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on<br><b>12-13-2004</b><br>(Date) |  |
|   |  |
| Signature of Person Mailing Correspondence  |  |
| <b>Heather Foster</b>   |  |
| Typed or Printed Name of Person Mailing Correspondence  |  |

CC: